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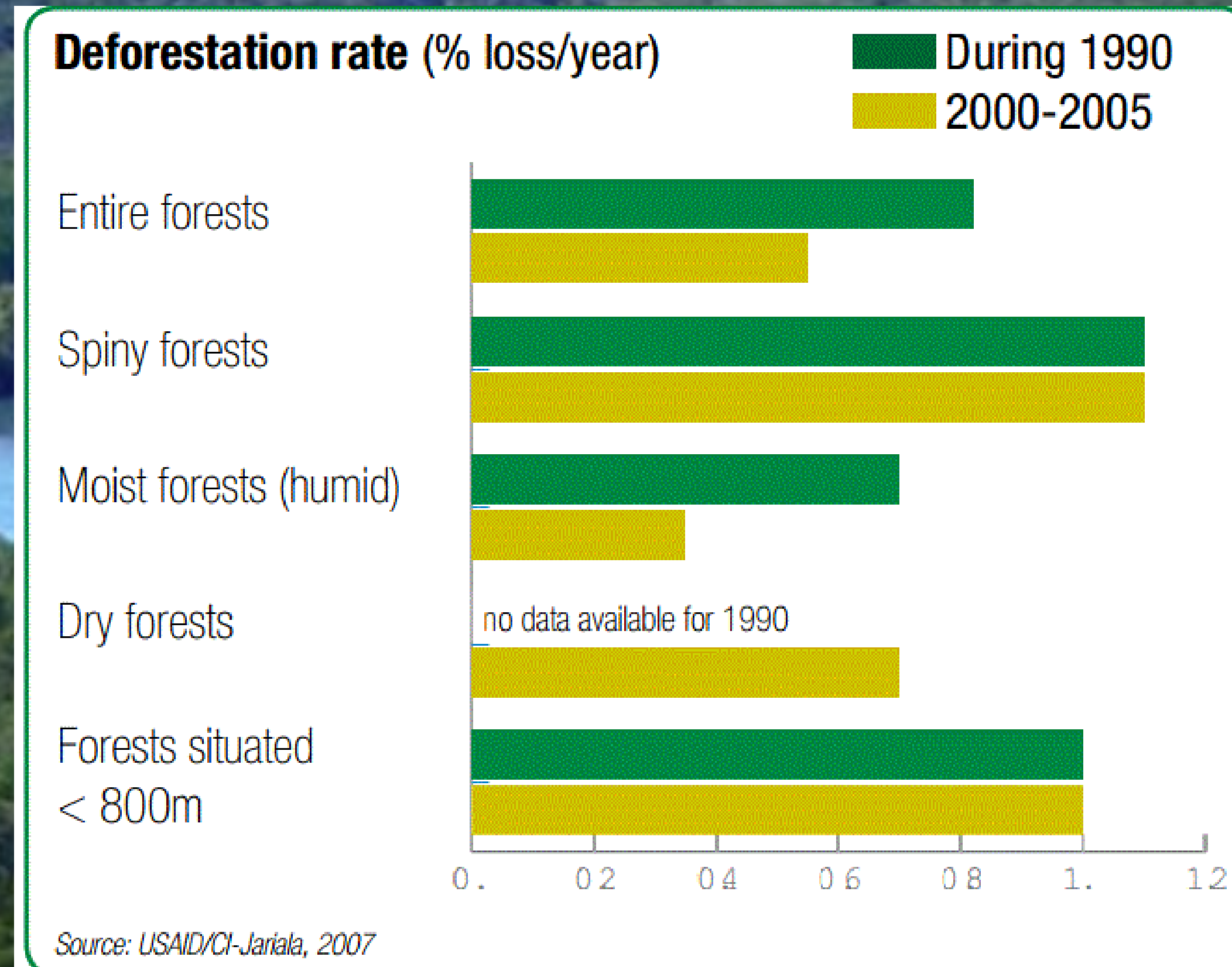
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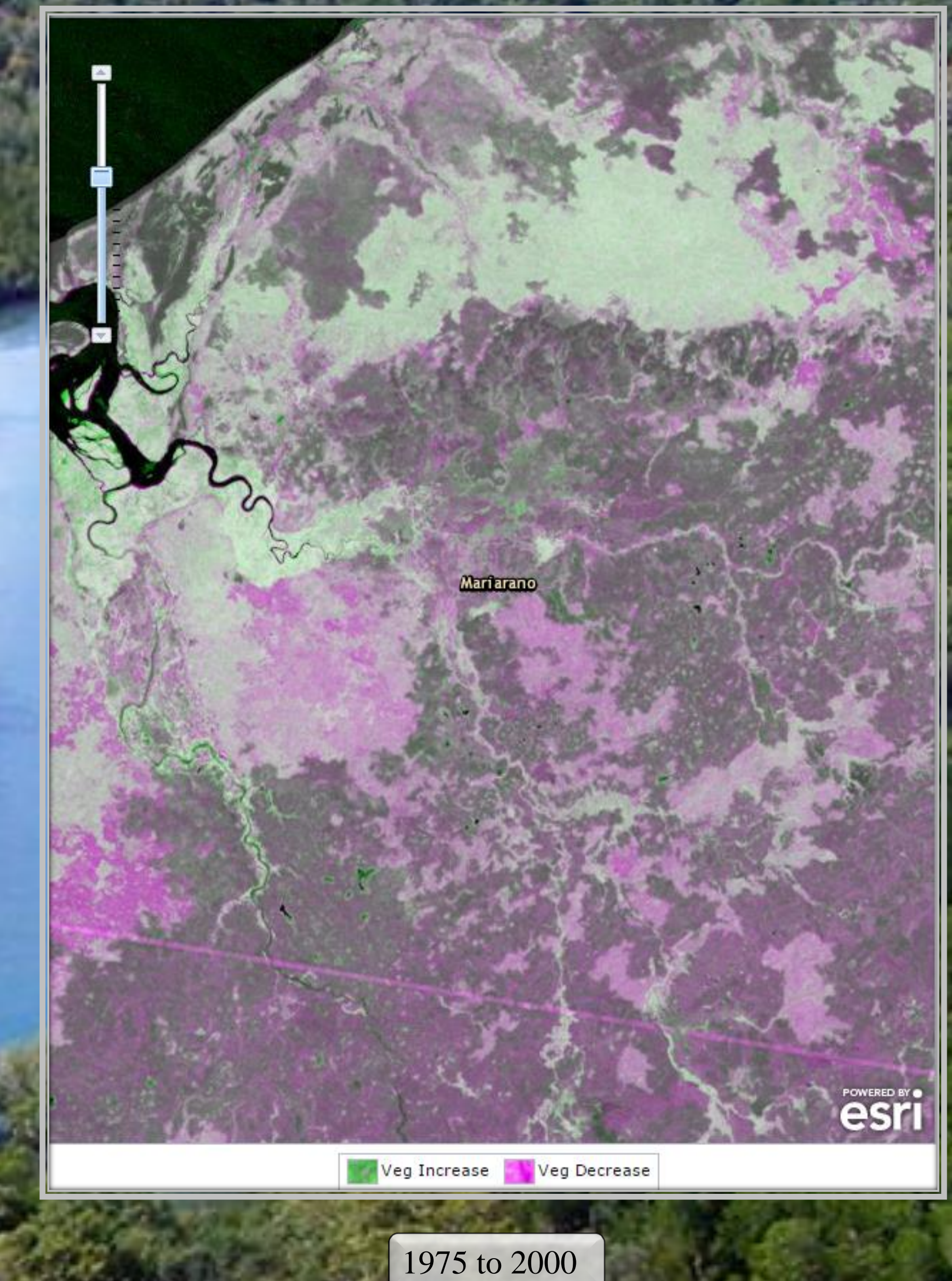
Bio-Madagascar

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Abstract

The aim of this project is to preserve biodiversity in the dry forests of Madagascar. To accomplish this our group will send solar ovens to people in Madagascar to supplant their charcoal and wood fuel burning cooking habits thus limiting deforestation.



Background

Charcoal and wood accounts for ~85% of energy use in Madagascar. 60% of households in the dry forest are involved in charcoal production and over 90% of the energy consumed by households is used for cooking. Madagascar has a population of 22.9 million people and a vast majority use locally harvested charcoal and wood, the country has a large deforestation issue. If nothing is done to prevent this deforestation, then it will endanger the biodiversity of the region.

Conclusion

We have determined that solar powered ovens would reduce the use of charcoal in Madagascar by substituting biofuels for a sustainable cooking method. This is a cheap and easily implemented solution that would help reduce deforestation and protect biodiversity.

Method

- Research into threats to biodiversity in Madagascar
- Looking into contributing factors of deforestation
- Coming up with solutions to reduce the necessity of charcoal production in the dry forest
- Research into different types of solar and biogas stoves and their cost to implement
- The decision was made to use solar ovens due to the climate of the region and their cheap cost to implement

Solar Oven

- Costs about \$15 dollars per oven
- Can reach temperatures capable of cooking any aspect of a typical Malagasy diet
- Can be easily built in about 30 minutes
- Only requires sunlight and time to function
- Can heat up to maximum temperature in as little as 30 minutes
- Has been shown to reduce wood usage by 60% and charcoal usage by 50% in a similar situation in Mekhé, Senegal

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